REMARKS

Introduction

Applicant and Applicant's attorney express their appreciation to the Examiner for the interview of March 8, 2004. The present Amendment is in response to the Examiner's Office Action mailed October 6, 2003. Claims 14-17 are cancelled, claims 1-13, 18-19, 22-24, 26-32, and 34-36 are amended and new claims 37-40 are added. Claims 1-13, and 18-40 are now pending in view of the above amendments.

The claim amendments made by this paper are consistent with the proposals discussed, and the agreements reached, during the interview. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

Drawings

The Office Action required new corrected drawings as the drawings were not acceptable to the draftsperson because characters in shaded areas must be shown in clear. Applicant submits new drawings for Figures 2 and 3 to render the drawings acceptable.

In the Interview, "the lasing SOA and the detector integrated on the same substrate;" was shown to the Examiner in the Figures and accepted as illustrating the lasing SOA and the detector integrated on the same substrate.

Rejections under 35 U.S.C. § 112

Claims 1-36 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite, vague, and confusing for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response, "positioned proximate the lasing SOA"

PAGE 19/25 * RCVD AT 3/12/2004 5:42:48 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/3 * DNIS:8729306 * CSID:8013281707 * DURATION (mm-ss):04-52

and "and determining" have been deleted from claim 1. In claim 18, "positioned proximate to at least one SOA within the plurality of lasing SOAs" and "for analyzing the electrical signal and determining" have been deleted. In claim 24, "with a detector coupled to the lasing SOA" has been added. As agreed at the interview, these amendments are believed to overcome the 35 U.S.C. § 112, second paragraph rejections for claims 1-36. Withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C. §§ 102 and 103

The Office Action rejected claims 1-3, 7, 9, 11, 13, 23-26, and 32 under 35 U.S.C. § 102(b) as being anticipated by Ouchi (U.S. Patent No.5,659,560). Claims 1, 2, 7, 11, 24, 25, and 32 are rejected under 35 U.S.C. § 102(b) as being anticipated by Endoh (U.S. Patent No. 5,754,571). The Office Action rejected claims 4-6, 8-10, 12, 15-19, 20-22, 27-31, and 33-36 under 35 U.S.C. § 10(a) as being unpatentable over Ouchi. Claims 4-6, 18, 27-29, and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Endoh.

As discussed at the interview and memorialized in the Interview Summary, neither Ouchi or Endoh anticipate claim 1-40 under 35 U.S.C. § 102 and neither Ouchi or Endoh, alone or in combination, teach or suggest claims 1-40.

For example, claim 1 requires "a vertical cavity lasing SOA for amplifying an optical signal traveling through an active region of the lasing SOA and outputting an amplified optical signal." In claim 1, which is directed to an apparatus for amplifying an optical signal, "a ballast laser signal produced by the vertical cavity lasing SOA acts as a ballast with respect to the amplification of the optical signal." "A detector coupled to a surface of the lasing SOA that emits the ballast laser signal converts the ballast laser signal to an electrical signal. A power

PAGE 20/25 * RCVD AT 3/12/2004 5:42:48 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/3 * DNIS:8729306 * CSID:8013281707 * DURATION (mm-ss):04-52

monitor, coupled to the detector, analyzes the electrical signal to determine a power level of the ballast laser signal. Then, a pumping current of the vertical cavity lasing SOA is adjusted based on the power level of the ballast laser signal to amplify the optical signal.

In claim 1, the ballast laser signal and the optical signal traveling through an active region of the lasing SOA are different signals and a power level of the ballast laser signal is used to amplify the optical signal. In contrast, both Ouchi and Endoh use a splitter to separate a portion of the output signal to use as feedback to adjust the laser. *See, e.g.* Ouchi Figure 9 reference numeral 2 and Endoh Figure 9 reference numeral 19. The splitters extract a portion of the output signal to use as feedback to adjust the output signal. *See* Ouchi col. 22, lls. 40-50; Endoh col. 10, lls. 13-54. Thus, neither Endoh or Ouchi teach or suggest a ballast laser signal that can be used to amplify an optical signal as required in claim 1. For at least this reason, claim 1 overcomes the art of record and is believed to be in condition for allowance.

At the interview, amendments to the independent claims 1, 18, and 24 were proposed and new claim 37 was presented. As noted in the Interview Summary, the independent claims 1, 18, 24, and 37 appear to overcome the art of rejection for reasons discussed at the interview, which include the above reasons. As a result, claims 1, 18, 24, and 37 are believed to be in condition for allowance, which is respectfully requested. The dependent claims 2-13 (claims 14-17 are cancelled by this paper), 19-23, 25-36, and 38-40 depend from one of the independent claims and are also believed to be in condition for allowance.

Applicant respectfully notes that the above discussion should not be construed to constitute an exhaustive enumeration of the distinctions between the claims of the present application and the references cited by the Examiner. Instead, such distinctions are presented solely by way of example. Applicant notes further that the arguments presented herein have been

PAGE 21/25 * RCVD AT 3/12/2004 5:42:48 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/3 * DNIS:8729306 * CSID:8013281707 * DURATION (mm-ss):04-52